Children's sensitivity to informativity inferences

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How do we learn about the world?

In order to learn about the world through language, we need to be able to distinguish between transparent and non-transparent language use.

Transparent language
Indented meaning corresponds directly to what has been said
Boys like football `[like(boys,football)]`

Non-transparent language
Intention behind an utterance does not clearly map onto the form used and the addressee must infer additional meaning.
Boys like football ⟶ *Girls don't like football*

Conversational expectations

Language use and comprehension is governed by interlocutors' expectations about how communicative interactions should proceed (Grice, 1975; Levinson, 2000).

- Be truthful
- Be relevant
- What is not said is the obvious
- Be informative
- Be brief
- What is said abnormally is not normal

When an utterance fails to meet these expectations we draw inferences.

I ate some of the cookies ⟶ *Not all of the cookies*
My soup is warm ⟶ *Not hot*
Pass me the blue blueberry ⟶ *There's a non-blue blueberry*
John went to restaurant and had a meal ⟶ *John doesn't usually eat at restaurants*
Charlie stopped the car / Charlie caused the car to stop ⟶ *The car was stopped in a non-standard manner*

Informativity inferences

When knowledgeable speakers produce **trivial utterances (neither blatantly underinformative nor explicitly overinformative)**, addressees are licensed to derive *informativity-based inferences.*

1. "The library walls are blue"
   a) *The situation has changed*
   b) *The walls used to be different*

Why utter (1)? To inform an addressee about the current state of the world? The triviality of (1) may invite the addressee to reason about why a speaker chose to produce such a trivial utterance. **What were the speaker's goals and intentions?** Is there something new? Has something changed?

Speaker knowledge is a key factor in deriving inferences. Greater rates of inferencing from knowledgeable speakers (Rees, Reksnes, & Rohde, preprint; Rees & Rohde, 2023).

Children's expectations

Fewer inferences from unknowledgeable or unreliable speakers (Moty & Rhodes, 2022; Tomasello & Akhtar, 1995).

Expect informative utterances (Morriseau, Davies, & Matthews, 2015; Bannard, Rosner, & Matthews, 2017).

Research questions

- Do children recognise additional meaning via informativity inferences?

  "I have a belly button"
  "Tigers have stripes"

- How do children use speaker knowledge to interpret trivial utterances?

What was the situation like several months ago? Same or different?

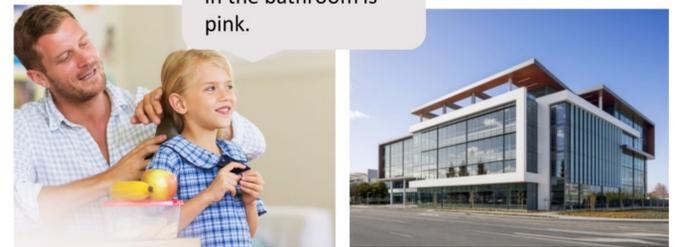School (familiar) — *I saw that the library walls are blue.*

Field trip to Prime Minister's office (unfamiliar) — *I saw that the soap in the bathroom is pink.*

Same: Transparent
Nothing changed

Different: Non-transparent
Infer something changed

Preliminary results

N = 47

Age	N	PM	School
5	4	.68 (.07)	.73 (.07)
6	9	.62 (.05)	.69 (.05)
7	13	.47 (.04)	.55 (.04)
8	9	.44 (.05)	.53 (.05)
9	5	.24 (.05)	.40 (.07)
10	7	.36 (.06)	.39 (.06)
Adults	15	.24 (.02)	.62 (.02)

Link to osf for findings in adults

PM = .47
School= .54

Children show sensitivity to informativity biases

Younger children compare with their own knowledge ("Mine is not like that")
Older children draw informativity inferences and base these on speaker' knowledge
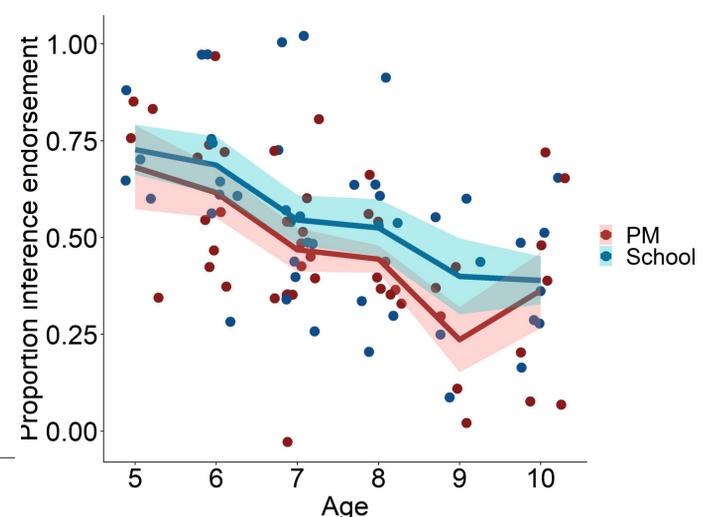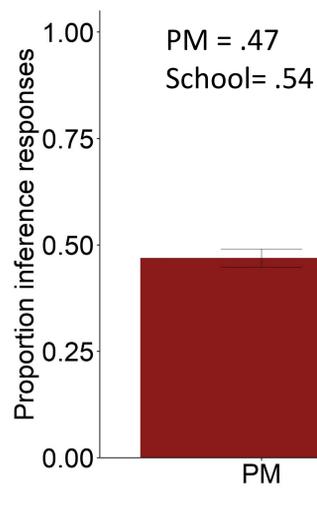
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